WEBINAR

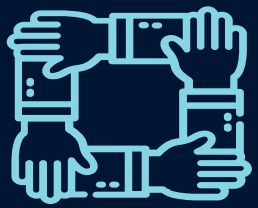
UN Big Data Hackathon

Pre-Hackathon Webinar

The 2022 UN Big Data Hackathon in numbers...

4 days

60+ countries



450+ teams

1000+ participants

2022 Theme

Using Big Data and Data Science to develop ideas and solutions to address Global Challenges and help achieve Sustainable Development Goals; notably to support policies caused by:

- The disruption to Global Value Chains and Economic Globalization due to disasters, conflicts, restrictions, blockages
- The impact of Climate Change on society as part of monitoring SDG 13
- The rise of food and energy prices affecting vicious cycles of poverty, hunger, and inequalities

Platform introduction: AWS

Thuan Tran
Senior Solutions Architect

Kathleen McGeer
Senior Customer Solutions Manager

Raju Rangan
Senior Solutions Architect

Jordan Robert
Account Manager

What should I do during the hackathon? (1/3)

Examples of guiding questions

- Given disasters, conflict/war, restrictions, and blockage, how can big data be utilized to measure the impact of such disruption? For example, what was the cost to the shipping companies/customers when the Suez canal was blocked?

- What are the impacts of the drying up of rivers around the world (i.e., Yangtze River, Colorado River, Rhine River) on the economy, environment, and society?

- How to monitor vulnerable countries that depend on imports for their food security considering the increase in prices and supply limit due to widespread restrictions on export?

What should I do during the hackathon? (2/3)

Deliverables

Hackathon = hack your way to an analytical solution that addresses the impact on SDGs of disasters, climate change and/or rise of energy/food prices

A **reference database** with various datasets related to the theme will be provided. **You can also use any public dataset even if it is not provided in the database.**

In line with the theme, you should leverage data analysis/big data to develop the prototype of a data product such as:

- Analytical reports
- Interactive dashboards with enhanced visuals
- Advanced Machine Learning models

What should I do during the hackathon? (3/3)
Deliverables

Teams must submit:

1. Presentation explaining their solution (free format).
2. Video with maximum length of 10 minutes = voice-over of the presentation
3. Coding scripts.

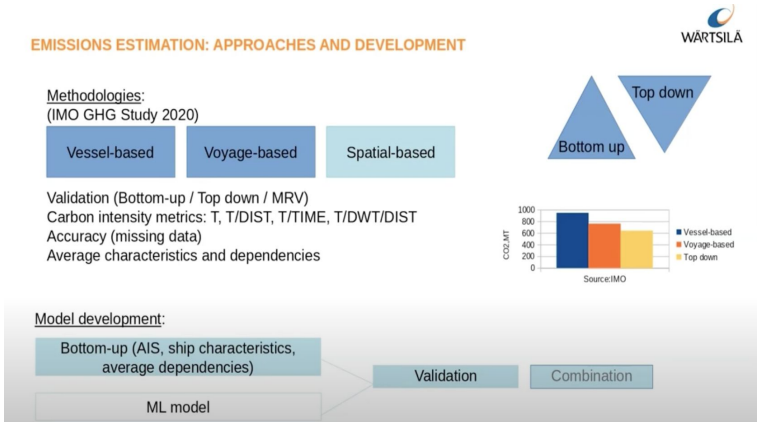
If one of these deliverables is missing, the team will get a penalty

Big Data Experts Track

Examples of outputs

Example 1: BlueCarbon, overall winning team of the 2020 AIS Hackathon

Using the AIS data provided by the UN Global Pulse platform, the team geographically distributed CO2 emissions from shipping based on individual vessel locations and activity using a Machine Learning Model. They subsequently developed an interactive dashboard to map these emission distributions for different time periods.



Reference: BlueCarbon's presentation video

https://www.youtube.com/watch?v=qmybyzV5R8A

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Big Data Experts Track

Examples of outputs

Example 2: DogCat, student winning team of the 2020 AIS Hackathon

Using the AIS data provided by the UN Global Pulse platform, the team analyzed **the impact of COVID-19** on three major sectors: commodities, bulk carriers and trade countries

Topic : The difference in the impact of COVID-19 to container shipping

Motivation

Is there are any difference in the impact of COVID-19?

e.g.) Deployed vessels becomes smaller by the low demand

Objective

To measure the difference in the impact of COVID-19 to several factors

Target

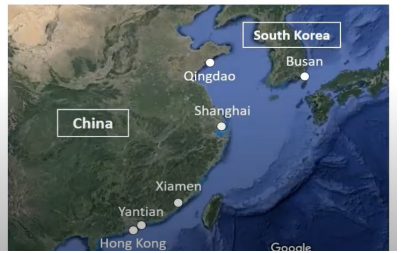
Data : Arrival data on AIS data

Ship : Container ship

Port : Busan, Qingdao, Yantian, Shanghai, Xiamen, Hong Kong, Los Angeles

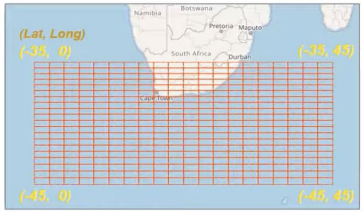
Term : 2019/01/08 - 04/23
2020/01/08 - 04/22

Factor : Shipping Alliance and Vessel size



Research Policy

① Set up a polygon area around the Cape of Good Hope and generate meshes in the area. (20 × 20 split)



② Extraction of speed and position data for each vessel in the area.

③ Using AIS data and other ship movement data, GHG emissions are calculated for each mesh and individual ship and the total values are tabulated.

Reference: DogCat's presentation video
https://www.youtube.com/watch?v=X_jmNy4qbjE

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Youth Track

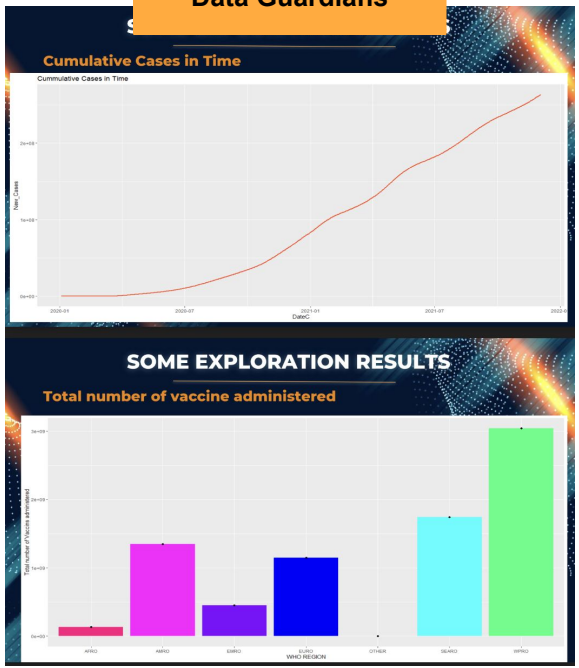
Examples of outputs

UN Youth Hackathon projects (sample):
https://drive.google.com/drive/folders/1MxLU0NvDnD224fVHPcZKUatx-s3OJ-T7

Example 1:

Reports providing detailed statistical analysis or data correlations between different datasets

Data Guardians



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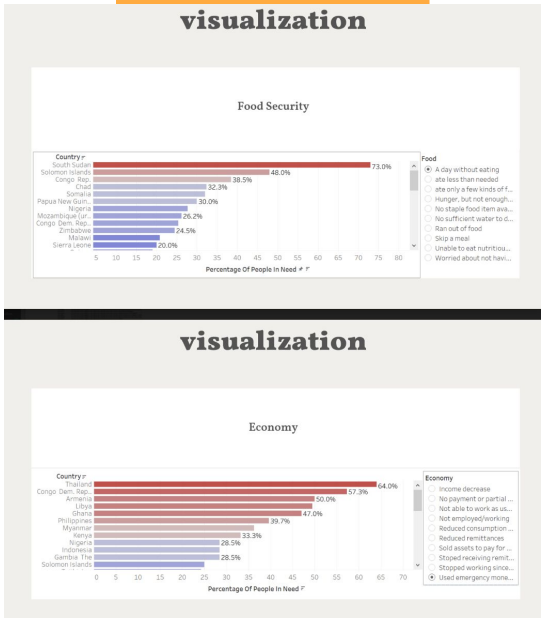
Youth Track

Examples of outputs

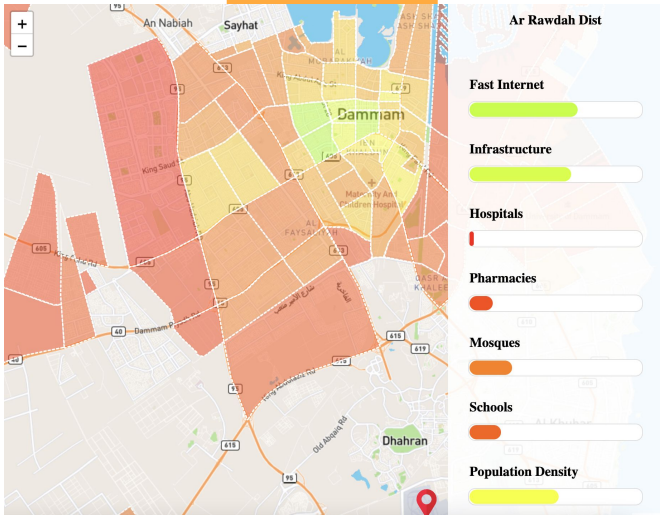
UN Youth Hackathon projects (sample):
https://drive.google.com/drive/folders/1MxLU0NvDnD224fVHPcZKUatx-s3OJ-T7

Example 2:
Interactive dashboard with enhanced analytical visuals

Team IdeaX



Doves



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Youth Track

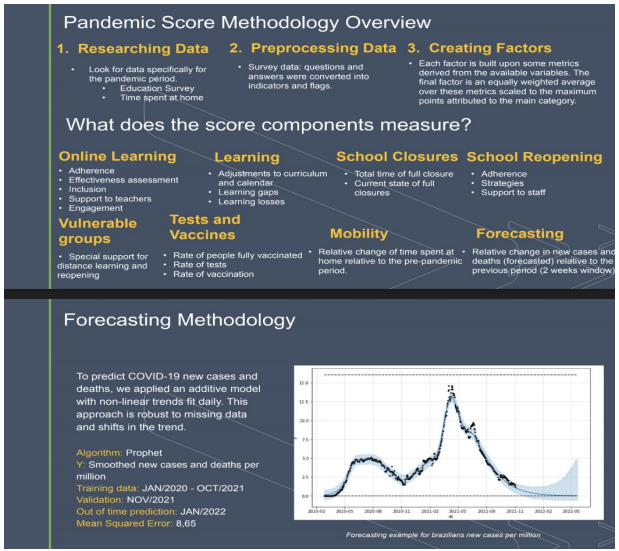
Examples of outputs

UN Youth Hackathon projects (sample):
https://drive.google.com/drive/folders/1MxLU0NvDnD224fVHPcZKUatx-s3OJ-T7

Example 3:
Advanced Machine Learning Models

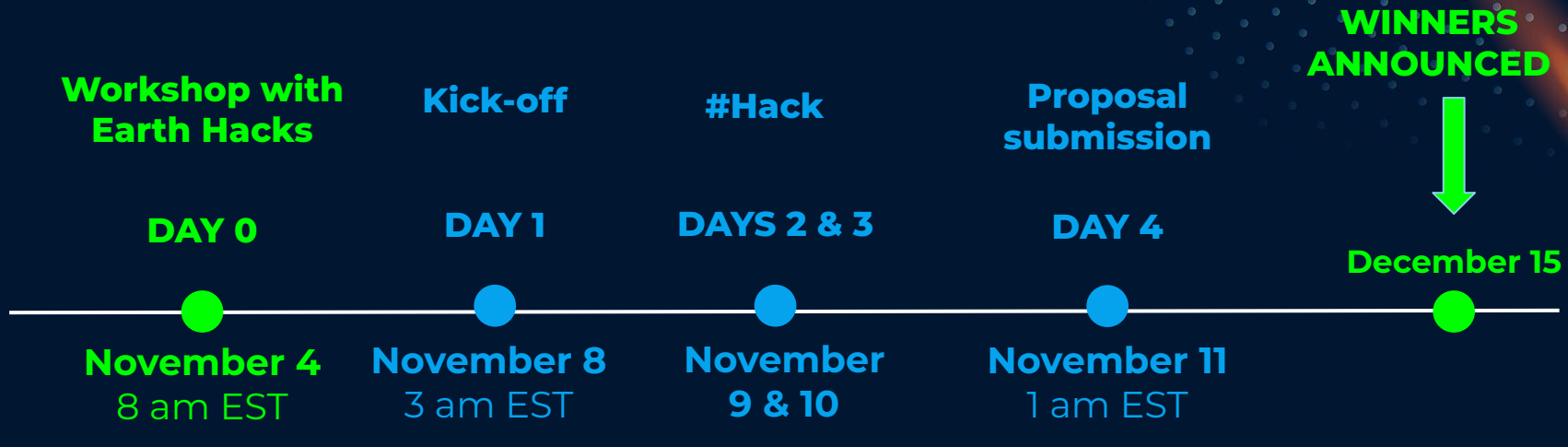
Team Sustainability, overall winner

Data Rockstars



UNBDH Timeline

Join the mailing list to be updated (webinars, deadlines, winners!)



- *Access to the databases will be granted starting from **November 8th at 2:00 PM Yogyakarta Time (UTC+7)**.*
- *Proposals must be submitted on **November 11th at 2:00 PM Yogyakarta Time (UTC+7)**.*

Earth Hacks Responsible Innovation Workshop

The workshop will follow the themes of responsible innovation, innovation and the climate crisis, *technosolutionism*, and innovation culture.

Designed to help teams create a better solution in line with the theme.

Communication Platform >> SLACK

General channels

- Channel ***"announcements"***: countdown, important information...
- Channel ***"data"***: share useful data insights or link to newly found public datasets.
- Find the channel **"technical-issues"** to seek technical support related to platform access
- Ask any questions that doesn't go into the other categories in the ***"submission-questions"***
- Relax and get to know other participants in the ***"lounge"*** channel

Regional channels

- You will be added to a private regional channel to get to know teams from your region

Big data experts channel

- Big data experts can communicate and share insights on this channel

Teams can create a private channel to have a collaborative work.

Teams can support each other through Slack at any time. The UNBDH Mentors from different regions will support teams on SLACK and will be available between 8:00 AM and 6:00 PM for each respective time zone.

Platform introduction: UNGP AIS

Amna Gul

Data Scientist
Asian Development Bank (ADB)

Sean Lovell

Information Systems Officer
United Nations Statistics Division

Platform introduction: ArcGIS

Brian Baldwin
Senior Solution Engineer at Esri

Judging Criteria

Criterion	Description	Weight
Theme	Does the team develop a solution that is in line with the event's theme? Is the solution realistic and scalable?	30%
Innovation	Does the team's idea show "Out of the Box" thinking? Is the team's solution groundbreaking?	30%
Methods	Is the technology behind the idea impressive? Does the solution use any new methods?	20%
Presentation*	How well was the project presented? Does it make the idea more appealing?	10%
Visualization*	How well has the report's data visualization been done?	10%

* This criteria is for separate prizes Best presentation and best visualization

Penalty

- Did the team submit codes, slides, video?
- Did the team use private data in the project?
- Did the big data expert tract team use big data?

Last advice

1. Have a good communication strategy with your team!
2. Start populating the slides as you go; don't leave it for the last day!
3. Manage your time carefully: 4 days is a short amount of time
4. Divide and conquer: each team member shall work on different tasks and sync regularly so you can get the best results
5. If you're stuck, don't stop: reach out to us and mentors on SLACK or by email! Finishing is better than abandoning :)

Q&A

Do you have additional questions?

un-big-data-hackathon@unmgcy.org

Follow us on:
https://unstats.un.org/bigdata/events/2022/hackathon/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